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# Before The FEDERAL COMMUNICATIONS COMMISSION Washington, D.C. **20554**

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In the Matter of	) DOCKET	FILE COPY ORIGINAL	NOV 1 4 2002
Revision of the Band Plan and Service Rules for the Multipoint Distribution Service and Instructional Television Fixed Service	) ) ) )	RM – 10586 DA 02-2732	FEDERAL COMMUNICATIONS COMMISSION OFFICE OF THE SECRETARY

### COMMENTS OF STANFORD UNIVERSITY

Pursuant Section 1.405 of the Commission's Rules (47 C.F.R. § 1.405), The Board of Trustees of the Leland Stanford Junior University ("Stanford") submits the following comments on "A Proposal for Revising the MDS and ITFS Regulatory Regime" ("White Paper"). The White Paper proposes substantial changes in the spectrum plan and service rules in Parts 21 and 74 of the Commission's Rules, governing the Multipoint Distribution Service ("MDS) and Instructional Television Fixed Service ("ITFS).

Stanford is filing these comments from the perspective of a mature ITFS system to assist the Commission in developing rules that will accommodate ITFS licensees in various stages of development. Stanford has been licensed to operate an ITFS system in the San Francisco Bay Area for over 30 years. The Stanford Instructional Television Network ("SITN") transmits hundreds of courses each year

<sup>&</sup>lt;sup>1</sup> See Public Notice, DA 02-2732 (released October 17, 2002).

in a variety of engineering and scientific subject areas to enrolled university students over five ITFS channels. Additionally, Stanford provides for-credit coursework to enrolled students at business sites throughout the Bay Area and non-credit instructional programming to several thousand more students. The "important contributions" of Stanford's system have recently been highlighted by Commissioners Tristani and Copps.<sup>2</sup>

Stanford finds that certain proposals in the White Paper, depending upon how they are applied, may unfairly disadvantage a mature ITFS system such as SITN. Stanford recommends that the Commission explore methods to avoid such a result and to ensure that the instructional purpose of ITFS spectrum is preserved.

### I. CERTAIN PROPOSALS IN THE WHITE PAPER MAY UNFAIRLY PENALIZE MATURE ITFS SYSTEMS.

The ITFS spectrum was intended to provide schools, colleges and other educational institutions with spectrum to serve their students through distance education. In prior proceedings, the Commission has repeatedly emphasized that the educational purpose of the ITFS spectrum should not be disrupted.3 Thus, any

<sup>&</sup>lt;sup>2</sup> Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Seruices, **16** FCC Rcd **17222**, **17248** (**2001**) (statement of Comm'rs Tristani and Copps).

<sup>&</sup>lt;sup>3</sup> See, e.g., Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, 13 FCC Rcd 19112, 19115 (1998) (modification of the Commission's rules must continue to provide benefits to the educational community).

changes to the ITFS band plan and/or service rules developed from the White Paper should be consistent with the long-standing purpose and goals of ITFS.

Modification of 6 MHz Channel Assignments. The White Paper recommends that the 2500-2686 MHz band be divided into three segments: (1)the Lower Band Segment ("LBS") with twelve 5.5 MHz channels at 2500-2566 MHz, (2) the Middle Band Segment ("MBS) with seven 6 MHz channels at 2572-2614 MHz, and (3) the Upper Band Segment ("UBS) with twelve 5.5 MHz channels at 2620-2686 MHz. (White Paper, at 12) The White Paper also proposes a 6 MHz Transition Band between the LBS and MBS and between the MBS and UBS.

In this proposal, unless otherwise agreed, each four-channel ITFS system would be reconfigured with one 6 MHz channel in the MBS, three 5.5 MHz channels in either the LBS or UBS, and 1.5 MHz in a Transition Band. (White Paper, at 12) The 6 MHz channels in the MBS are designed for high-power point-to-multipoint programming services, while the 5.5 MHz channels in the LBS and UBS are designed to be used in low-power "cellularized" systems with multiple base stations.

Although the proposed reconfiguration of the 2500-2690 MHz band is appealing in some respects, the proposed implementation could lead to problems for mature ITFS stations. For example, the White Paper suggests that a proponent of market reconfiguration could opt to replace a fully utilized four-channel ITFS station with one MBS channel (and three LBS/UBS channels) by migrating the station to four digital programming streams on one MBS channel. (White Paper, App. B, at 24)

For fully operational, mature ITFS systems, such as the Stanford Instructional Television Network, forced adoption of this new band plan would present difficulties, requiring reconfiguration of the entire system and, if not otherwise covered, the purchase of new equipment. Moreover, the current capability of SITN to grow and develop from, for example, four analog channels to eight or sixteen digital video programming streams transmitted from a central location would be jeopardized. Plus, an ITFS licensee may end up with spectrum that is not particularly useful for its educational mission. The loss of the existing channel configuration could make it more difficult and costly for Stanford to utilize the ITFS spectrum for growth of its instructional programming in the future.

Modification of ITFS/MDS Service Areas. The White Paper proposes to transition all MDS and ITFS licensees to fixed geographic service areas ("GSAs"). (White Paper, at 20) For each licensee with a station assigned to specific transmitter coordinates, the GSA would be its existing protected service area ("PSA"), or the equivalent, that is, essentially a 35-mile radius circle around the transmitter coordinates. Where PSAs overlap, due to the historical development of ITFS and MDS stations, the White Paper suggests that the overlap portion would be divided evenly, and each licensee would receive its exclusive share. (White Paper, at 21)

However, the assignment of the 35-mile radius for PSAs was originally based on a service area for programming channels. The arbitrary halving of overlap areas does not necessarily take into account the service base that a station might have

developed. Although the affected parties could agree on a different boundary, the proposal to facilitate "cellularized" mobile services creates an economic incentive for licensees to hold on to as much geographic area as possible without regard to whether it is part of another licensee's instructional service area.

Treatment of Grandfathered ITFS Stations. The White Paper correctly recommends that grandfathered ITFS E- and F-Channel licensees would participate in spectrum reassignments, and the restrictions currently attached to grandfathered stations would be eliminated. (White Paper, at 51) On the other hand, where existing licensees share spectrum in a channel group in a geographic area, the White Paper proposes that, under certain circumstances, the channels could be allocated proportionately. (White Paper, App. B, at 24-25)

Grandfathered ITFS stations, in theory, share their channels with commercial MDS stations, whose licenses were awarded by lottery.4 Currently, an MDS station cannot be built in the same geographic location unless it can fully protect from interference the grandfathered ITFS station's receive sites.5 As a result, some MDS licensees only have an incipient right to serve certain areas because of the difficulty of designing two stations to share frequencies in the same geographic location.

<sup>4</sup> See Amendment of Parts 2, 21, 74 and 94 of the Commission's Rules and Regulations in Regard to Frequency Allocation to the Instructional Television Fixed Service, the Multipoint Distribution Service, and the Private Operational Fixed Service, 94 FCC 2d 1203 (1983).

<sup>5</sup> See 47 C.F.R. § 21.902(b)

The White Paper suggests that licensees that share channels in the same geographic area could under certain circumstances be apportioned channels according to their spectrum holdings. This technique should be reserved for the situation discussed in the "Safe Harbor No. 4," and should not be applied in locations where there is a grandfathered ITFS station and unbuilt but licensed MDS station. Since the MDS licensee may have no ability to actually use the channels under the existing rules, the ITFS licensee's access to spectrum should not be impaired as a result of the transition to the new band plan and service areas.

Assignment of H-Channels. The White Paper includes the three H-Channels in the modifications for the band plan and service rules. (White Paper, at 12 n.31) However, the incumbent licensees of H-Channels would not by default be assigned a channel in the MBS. Rather H-Channel licensees would receive only 5.5 MHz channels in either the LBS or UBS. Stanford is the licensee of an H-Channel (WNTA285) used for video programming and, under this proposal, could be provided access to a programming stream, but might not receive a replacement MBS channel. The result of the default proposal would unfairly penalize Stanford, which for many years has furthered the Commission's educational objectives with instructional programming on its H-Channel.

# 11. THE COMMISSION SHOULD CRAFT FLEXIBLE RULES THAT ENSURE OPERATIONAL ITFS SYSTEMS HAVE THE SAME CAPABILITIES AS THEY HAVE UNDER THE CURRENT RULES.

In developing rules from the White Paper proposals, the Commission should consider rules that will not hinder or disrupt the instructional mission and services

of educational institutions with mature ITFS systems. The Commission has always supported the instructional use of the spectrum and should continue to do so by not disrupting the educational capability of those ITFS licensees that have maximized use of the spectrum for instructional purposes. Specifically, any new rules should ensure that instructional services are not adversely affected by the adoption of a reconfigured band plan and modified service rules for ITFS.

Channel Selection Priority. If the Commission pursues a modification to the ITFS/MDS band plan as proposed in the White Paper, it should include a priority for operational ITFS stations. The White Paper suggests that a proponent of market reconfiguration could force an ITFS licensee to accept one 6 MHz channel to accommodate four programming streams. (White Paper, App. B, at 24) Such a rule could put Stanford in a position of having as replacement for its fully-utilized four-channel station, one MBS channel and three LBS/UBS channels, which could severely handicap its educational mission.

Stanford believes that the licensees should have some firm right to elect what channels they retain under a modified spectrum plan. If necessary, a priority system could be used, based, for example, on the number of hours of programming offered over each existing ITFS channel and/or the number of students served. A priority in channel selection would ensure that stations using ITFS spectrum as it was intended to be used will not be penalized for doing so, and will have the same capability and opportunity to grow the system as they do now.

A priority system would be preferred over a system in which ITFS licensees would have to go into the secondary market to obtain equivalent facilities, as the White Paper proposes. (White Paper, at 13) Assuming all ITFS licensees in a market are obligated to meet certain programming requirements, there simply may not be sufficient MBS channels to accommodate all users, and bargaining for spectrum rights to meet existing services could prove costly. Forcing all ITFS licensees into the same market configuration proposed in the White Paper has the potential to work an unfair penalty on those that have maximized use of the spectrum for its intended purpose and desire to continue to do so.

Cost Recovery for Equipment Modifications. The Commission should also ensure that operational ITFS systems do not incur unreasonable costs as a result of any modifications to transmission systems. The proponent of a market change should be required to cover all the costs of the necessary video programming equipment, including the equipment for the transmitters, video/audio encoding systems, receive sites, and studio-to-transmitter links, if affected by the change. Pursuant to the White Paper, the proponent of the market transition would only be required to provide replacement downconverters at all receive sites and to migrate programming streams equivalent to the existing service of the ITFS licensee. (White Paper, App. B, at 5) However, that may not be adequate for independent ITFS systems. Rather than this standard, the Commission should consider an alternative that requires a specific equipment replacement standard that may have an upper dollar cap.

Selection of Service Areas. The need for exclusive service areas is understandable for "cellularized" services. However, the arbitrary method for splitting service areas proposed in the White Paper should be one choice for licensees, but not the only choice. The affected parties should have an opportunity to draw a boundary that better fits their targeted service areas, or to retain a partial overlap on a non-exclusive basis. The Commission should explore a range of choices in adopting rules to transition from PSAs to GSAs.

Channel Protection for Grandfathered ITFS Stations. The Commission must ensure that the spectrum rights of grandfathered E-/F-Channel ITFS licensees arc protected. With respect to the assignment of channels and GSAs to grandfathered E-/F-Channel ITFS licensees, the existing right to use the spectrum by grandfathered ITFS stations should be fully preserved. If an MDS licensee cannot currently use frequencies within the ITFS station's PSA due to the potential for interference, it should not acquire spectrum rights from the ITFS licensee under the transition plan. Since grandfathered ITFS stations have a current right to use the frequencies, they should be entitled to the same rights under any band plan revision, unless otherwise agreed.

MBS Channels for H-Channels. Licensees of H-Channels used as ITFS video programming channels should not be excluded from obtaining a 6 MHz channel in the MBS. Rather, the principle of channel-to-channel replacement should be followed. This will ensure the instructional services of ITFS licensees with H-Channels used as ITFS Channels will not be disrupted. To ensure adequate

facilities for H channel licensees, the Commission may need to increase the size of MBS, or provide an incentive to existing licensees to return spectrum that can be reassigned to accommodate other licensees.

#### 111. CONCLUSION

The Commission should continue to adhere to its longstanding support for the educational goals of ITFS stations. Operational ITFS systems should have a right to retain equivalent facilities, including channel-for-channel replacement and equipment replacement. Grandfathered E-/F-Channels and H-Channels licensed to ITFS entities should be included in the right to retain equivalent facilities. Overall, as the Commission considers new rules for ITFS, it should ensure that operational ITFS stations will not be penalized, and will retain the capability to maximize use of the spectrum for instructional services.

Respectfully submitted,

THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY

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#### **CERTIFICATE OF SERVICE**

I, William D. Wallace, hereby certify that I have on this 14th day of November, 2002, caused to be served true and correct copies of the foregoing "Comments of Stanford University" upon the following parties via hand delivery (marked with an asterisk (\*)) or first-class United States mail, postage prepaid

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